WHAT IS CLAIMED IS:

1. A method for managing semiconductor manufacturing equipment, comprising:

selecting a first process to be performed in a chamber of the manufacturing equipment wherein the first process produces reaction products in the chamber;

selecting a second process to be performed in the chamber wherein the second process removes the reaction products in the chamber produced by the first process;

monitoring an amount of the reaction products remaining in the chamber; and

determining an order of performance of the first and second processes based on the monitored amount of the reaction products.

2. The method according to claim 1, wherein determining the order of performance of the first and second processes includes setting a priority order between the first and the second processes based on the monitored amount of the reaction products.

3. The method according to claim 2, wherein setting the priority order between the first and the second processes includes, depending on the monitored amount of the reaction products, one of:

setting a priority to the second process over the first process; and

setting a priority to the first process over the second process.

4. The method according to claim 1, wherein determining the order of performance of the first and second processes includes:

setting a priority to the second process over the first process; and

if the manufacturing equipment is instructed to perform the first process despite the setting of the priority to the second process over the first process, performing cleaning that removes the reaction products remaining in the chamber prior to performing the first process.

5. The method according to claim 1, wherein monitoring the amount of the reaction products is performed based on a record of performance of the first and the second processes.

6. The method according to claim 1, wherein monitoring the amount of the reaction products is performed based on a record of performance of the first and the second processes and points that represent production or removal effects on the reaction products of

the first and the second processes.

7. The method according to claim 6, wherein monitoring the amount of the reaction products further includes:

receiving a measurement result indicating a measured amount of the reaction products remaining in the chamber;

comparing the monitored amount with the measured amount; and

adjusting the points based on the result of the comparison.

8. The method according to claim 1, wherein:

the first process is an etching process using a process gas including at least one of chlorine and bromine; and

the second process is an etching process using a process gas including at least fluorine.

9. The method according to claim 8, wherein the process gas including fluorine includes SF_6 gas.

10. The method according to claim 8, wherein the second process is an etching process of a silicon nitride film.

11. A system for managing a semiconductor manufacturing line that processes a plurality of lots of wafers, comprising:

at least one semiconductor manufacturing equipment having a chamber, the manufacturing equipment performing a first process that produces reaction products in the chamber and a second process that removes the reaction products in the chamber produced by the first process and, optionally, a cleaning that removes the reaction products remaining in the chamber;

a host computer that manages the manufacturing line;

an individual management device that manages the manufacturing equipment, wherein the individual management device monitors an amount of the reaction products remaining in the chamber, sets a priority order between the first and the second processes based on the monitored amount of the reaction products, and notifies the host computer of the set priority order,

wherein the host computer determines an order of performing the first and the second processes based on the priority order notified from the individual management device.

12. The system according to claim 11, wherein the host computer determines the order of performing based on the priority order notified from the individual management device and another priority order set in the host computer.

13. The system according to claim 11, wherein:

the individual management device sets the priority order such that the second process has a higher priority than the first process; and

when the host computer selects a first lot that requires the first process as a lot to be processed next by the equipment despite the notification of the set priority order from the individual management device, the individual management device instructs the manufacturing equipment to perform the cleaning prior to processing the first lot.

14. The system according to claim 11, wherein the individual management device monitors the amount of the reaction products remaining in the chamber based on a record of performing the first and second processes and, optionally, the cleaning.

15. The system according to claim 14, wherein the individual management device monitors the amount of the reaction products based on the record and points that represent production or removal effects on the reaction products of the first and second processes and, optionally, the cleaning.

16. The system according to claim 15, wherein:

the manufacturing equipment has a measuring device that measures the amount of the reaction products in the chamber; and

the individual management device receives a measurement result indicating the measured amount of the reaction products from the measurement device, compares the monitored amount with the measured amount, and adjusts the points based on the result of the comparison.

17. A method for managing a semiconductor manufacturing equipment in a manufacturing line for processing a plurality of lots of wafers, the line including an individual management device that manages the manufacturing equipment, and a host computer that

controls the manufacturing line, the method comprising:

selecting a first and a second process to be performed in a chamber of a manufacturing equipment, the first process producing reaction products in the chamber and the second process removing the reaction products in the chamber produced by the first process;

monitoring, in the individual management device, an amount of the reaction products remaining in the chamber, and setting a first priority order between the first and the second processes based on the monitored amount of the reaction products; and

selecting, in the host computer, a lot to be processed next by the manufacturing equipment from the plurality of lots based on the first priority order and a second priority order set in the host computer.

18. The method according to claim 17, wherein:

the setting sets the first priority such that the second process has a higher priority than the first process; and

the individual management device instructs the manufacturing equipment, when the host computer selects a first lot that requires the first process as the lot to be processed next despite the setting of the priority order, to perform cleaning to remove the reaction products remaining in the chamber prior to processing the first lot.